

# Historical Polish texts and Unicode

Janusz S. Bień

????

# Status

- a preliminary incomplete proposal (version 3)
- available at  
`http://bc.klf.uw.edu.pl/179/`
- PDF available on request
- source files available on request



# Three perspectives

## Focus temporarily on characters

- Glyphs (fonts, OCR)
- Characters (coding and searching)
- Textels

<http://bc.klf.uw.edu.pl/118/>

# Unicode

Is sufficient without PUA?

## Unicode Private Use Area

- ConScript Unicode Registry  
(<http://www.evertype.com/standards/csur/>)
- SIL (Summer Institute of Linguistics)  
([http://scripts.sil.org/pua\\_home](http://scripts.sil.org/pua_home))

## Medieval Unicode Font Initiative ([www.mufi.info](http://www.mufi.info))

- MUFI character recommendation (version 3.0, 24 June 2009)
- Proposals for new MUFI characters

# Text Encoding Initiative

- ENRICH's Gaiji Bank of non-standard characters and glyphs (<http://beta.manuscriptorium.com/index.php?q=node/3>)
- <http://slovo-aso.cl.bas.bg/howto.html>
- ...

# Unicode fonts

Extensions definitely required!

Junicode (*Junius-Unicode*) font by Peter S. Baker

- Free license: GNU General Public License
- <http://junicode.sourceforge.net/>

*Andron Scriptor Web* by Andreas Stötzner

- Full MUFI 3.0 coverage
- Free for scholarly editing purposes, no commercial usage
- <http://www.mufi.info/fonts/#Andron>

## Related project

### Renaissance Electronic Texts

`http:  
//www.library.utoronto.ca/utel/ret/ret.html`

- Ian Lancashire

RET Encoding Guidelines. 1994, 1997. RET Supplementary Studies 1.2.

`http://www.library.utoronto.ca/utel/ret/  
guidelines/guidelines0.html`

Obsolete (ASCII transcription, SGML entities)

## Related project

### The Cassetin Project

- Jacques André (<http://jacques-andre.fr/>)  
The Cassetin Project – Towards an Inventory of Ancient  
Types and the Related Standardised Encoding  
<http://www.tug.org/TUGboat/Articles/tb24-3/andre.pdf>  
Numérisation et codage des caractères de livres anciens  
<http://jacques-andre.fr/japublis/cassetin.pdf>

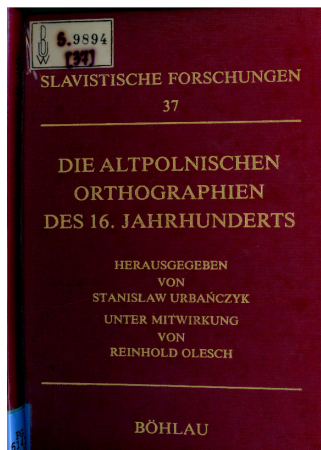
Never really started?

# Unicode and Polish language

## Sebastian Kembgen

- Unicode 4.1 and Slavic Philology Problems and Perspectives (I) [http://kodeks.uni-bamberg.de/slavling/downloads/SK\\_Slavic\\_Unicode\\_I.pdf](http://kodeks.uni-bamberg.de/slavling/downloads/SK_Slavic_Unicode_I.pdf)
- Unicode 4.1 and Slavic Philology Problems and Perspectives (II) [http://kodeks.uni-bamberg.de/slavling/downloads/SK\\_Slavic\\_Unicode\\_II.pdf](http://kodeks.uni-bamberg.de/slavling/downloads/SK_Slavic_Unicode_II.pdf)

## Contemporary publications



Old Polish  
Orthographies  
of 16th Century

Stanisław Zaborowski  
Jan Seklucjan  
Stanisław Murzynowski  
Jan Kochanowski  
Jan Januszowski



# Polonia Typographica fasc. 1 (1936, 1968)

## Facsimiles of typographical resources of Polish 16th century presses

### **POLONIA TYPOGRAPHICA SAECULI SEDECIMI, ZBIÓR PODOBIZN ZASOBU DRUKARSKIEGO TLOCZNI POLSKICH XVI STULECIA, KASPER HOCHFEDER KRAKÓW 1503-1505**

Piekarski, Kazimierz

- Warszawa : Tloczono w Szkole przemyslu graficznego imienia marszalka Józefa Pilsudskiego 1936
- folio
- cloth portfolio
- 10 pages; (iii), 28 plates
- Order Nr. 76062
- Collection : from the H.P. Kraus reference library
- Price: \$ 195.00

*First edition. (Besterman, 5173). From an edition limited to 300 copies. The complete first volume from Piekarski Kazimierz's (1893-1944) study of early typography and printing. This edition examines the work of Kasper Hochfeder's work in Krakow between 1503-1505. Includes text in 8vo. 10 page booklet. Includes 28 large unbound facsimiles. All in Polish. With minor stain to the bottom of the plates 13-28. A few plates with small bent paper edges. Some browning with minor tearing and chipping to title and end plate. Bookplate on front pastedown indicates that this book came from the reference library and stock of H. P. Kraus.*

## Polonia Typographica fasc. 1 (1936, 1968)



# Polonia Typographica

fasc. 2 (1937, 1963), fasc. 3 (1959)

## POLONIA TYPOGRAPHICA SAECULI SEDECIMI

ZBIÓR PODOBIZN ZASOBU DRUKARSKIEGO  
TŁOZNI POLSKICH XVI STULECIA

FASCICULUS • II • ZESZYT  
JAN HALLER  
1505—1525

TABULAE • 30—60 • TABLICE



## POLONIA TYPOGRAPHICA SAECULI SEDECIMI

ZBIÓR PODOBIZN ZASOBU DRUKARSKIEGO  
TŁOZNI POLSKICH XVI STULECIA

ZESZYT III  
PIERWSZA DRUKARNIA FLORIANA UNGLERA  
1510—1516  
TABLICE 61—120



## Polonia Typographica fasc 12. (the last one)

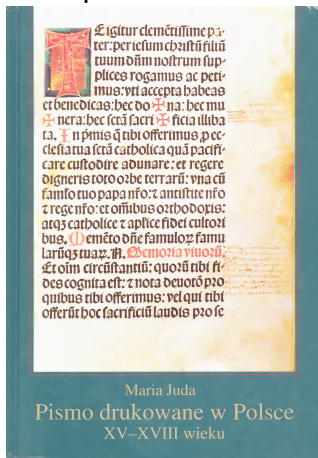
Tytuł Maciej Szarfenberg : Kraków 1527-1547 : tabulae = tablice  
571-600 / Adres wyd. Wrocław : Zakład Narodowy im.  
Ossolińskich, 1981.

Seria (Polonia Typographica Saeculi Sedecimi ; z. 12)

Opis fiz. Teka (24 s., 30 k. tabl.) : il. ; 41 c

## Contemporary publications

<http://dlibra.umcs.lublin.pl/publication/597>



*Title translation  
and summary  
by Wojciech Siemaszkiewicz:*

# Typography in Poland, Fifteenth to Eighteenth Centuries

History of printing in general, and of typesettings and fonts, in Poland from the fifteenth to eighteenth centuries.

# Maria Juda, *Typography in Poland ...*

## Tekstura — LATIN LETTER A (p. 65)

a a a a a A      a a Y R M M M M

## Rotunda — LATIN LETTER A (p. 82)

a a a a A      A a R R R R R R R

# Maria Juda, *Typography in Poland ...*

## Szwabacha — LATIN LETTER A (p. 98)




## Fraktura — LATIN LETTER A (p. 114)




# Maria Juda, *Typography in Poland ...*

Antykwa renesansowa (old face) — LATIN LETTER A (p. 154)

a a aa a2 a a a A A AA A A A A A A

Kursywa renesansowa — LATIN LETTER A (p. 188)

a a aa a a A A A A A A



## Maria Juda, *Typography in Poland ...*

Antykwa klasycystyczna (modern face) — LATIN LETTER A (p. 231)

a a a a A A A A

Kursywa klasycystyczna — LATIN LETTER A (p. 260)

a a a a A A A A

# Maria Juda, *Typography in Poland ...*

Polish letters (p. 317)

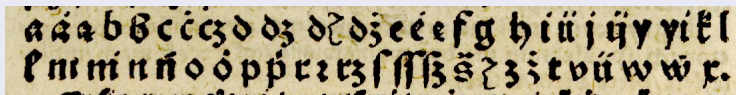
ą ą̇ ą ą̇. ą

# Parkosz's treatise on Polish orthography — about 1440

## Latin manuscript in Jagiellonian Library

- Bandtke's edition — 1830  
<http://www.wbc.poznan.pl/publication/115430>
- Łoś' edition — 1907  
[http://www.pbi.edu.pl/book\\_reader.php?p=40702](http://www.pbi.edu.pl/book_reader.php?p=40702)  
(dirty OCR),  
[http://openlibrary.org/books/OL24137558M/Materyay\\_i\\_prace](http://openlibrary.org/books/OL24137558M/Materyay_i_prace).
- Kucała's edition — 1985  
to be digitalized for  
<http://eprints.wbl.klf.uw.edu.pl/>

# Stanisław Murzynowski — 1551



aaabccczd dz dZ dzeéefg hiü j üy yi kl  
l n m nñ o ö p p r r z s s s z z i t v ü w w r.

# Search engine for historical dictionaries and texts

The screenshot shows a Netscape browser window titled "Poliqarp search engine - Iceweasel". The address bar displays the URL "http://poliqarp.wbl.klf.uw.edu.pl/". The browser's toolbar includes buttons for "Most Visited", "Getting Started", and "Latest Headlines". The main content area is divided into two panels. The left panel, titled "Poliqarp search engine", contains a menu with the following items:

- Interface language: English (dropdown) and Change button
- About
- Available texts:
  - J. Karłowicz, A. Kryński, W. Niedźwiedzki. Dictionary of Polish. Warsaw 1900-1927
  - S. Bąk, M. R. Mayenowa, F. Pełowski (eds.). Dictionary of the 16th century Polish. Wrocław — Warszawa, 1966-???? (work in progress)
  - M. Samuel Bogumił Linde. Dictionary of Polish (2nd edition). Lwów 1854-1861.
  - B. Chlebowski, F. Sulimierski, W. Walewski (ed.), The Geographical Dictionary of the Polish Kingdom and other Slavic Countries, Warszawa 1880-1902
- Settings
- Basic help

The right panel contains a paragraph of text:

The search engine, made available by [the Formal Linguistics Department](#) of the University of Warsaw, facilitates searching digitalized texts in [the DjVu format](#). The engine is a modification of the [Poliqarp system](#) (developed in the [Institute of Computer Science of Polish Academy of Sciences](#)) used to support the [National Corpus of Polish](#), so it has the same query syntax. The modification has been implemented by [Jakub Wilk](#), who also converted most of the texts to a suitable format. The idea to use Poliqarp for DjVu texts was developed by [Janusz S. Bień](#), and presented in a paper entitled "[Facilitating access to digitalized dictionaries](#)". The work on the search engine is supported by the Ministry of Science and Higher Education's grant no. N N519 384036.

The status bar at the bottom of the browser window shows the word "Done".

# Scientific (diplomatic) transcription

## Theory

- A book *Principles of editing Old Polish texts*, 1955  
<http://ebuw.uw.edu.pl/publication/1334>:  
not sufficient for our purposes,  
partly obsoleted by publishing technology

## Practice

- Dictionary of 16th century Polish:  
editor instruction and actual usage

*In theory, practice is compatible with theory;  
in practice, it is not.  
(author unknown)*

# Scientific (diplomatic) transcription

## More theory

Krzysztof Opaliński

Problemy kodowania korpusów historycznych  
(na przykładzie tekstów XVI-wiecznych)

Joanna Kamper-Warejko, Iwona Kaproń-Charzyńska (eds.)  
*Z zagadnień leksykologii i leksykografii języków słowiańskich*  
Wydawnictwo Naukowe Uniwersytetu Mikołaja Kopernika  
Toruń 2007  
pages 107–114

## Transcription examples: *dz* ligature, ...

K O C H. D iedno/ iako drab/ dąb.  
ǫ troie : pirwśé gdi piśem/ wiédł/ to iest/ bąǫ penvien:  
drugié z kréśką/ iako wiédł/ to iest/ za rękę/ abo zaco-  
kolwiek třećie z kreską na dole/ iako liǫba.

[3 r.]; [przykłady na konsonantes] ǫ Cuǫ synowie zá-  
stąǫeli śie. Wuoǫ moi/ i znáiomý moi. JanNKarGórn G4,  
G3v; D iedno/ iako drab/ dąb. ǫ troie : pirwśé gdi piśem/  
wiédł/ to iest/ bąǫ penvien: drugié z kréśką/ iako wiédł/  
to iest/ za rękę/ abo zacołwiek, třećie z kreską na dole/



## Transcription examples: *dz* ligature, *dz*

### Volume VI (1972)

32, *Matth* 18/16 [2 r.], 20 (36); przedzielenie między dwiema  
Ŧ muŝi byŕ na kŝtallt virgvllki *JanN*KarGór*n* Hv, Hv

### Volume XXXI (2003)

*Wyrażenie:* »przedzielenie między dwiema« (1): tedy  
przedzielenie między dwiema Ŧ mvŝi byŕ na kŝtallt virgvllki *JanN*-  
*KarGór*n Hv.

## Transcription examples: *I barbarum*, ...

dý prosté i: iako tó na tim mieścu/ kiedi rękę/ bāby to  
ieſt/ ſtaré żony/ a babi/ co po laćinie obſtetricatur: iuż  
tu inaczéy b bŕmi / a inaczéy tam : bo napród ieſt b /

*obstetricare, obstetricari Cn (4): kiedi rękę/ baby/ to ieſt/  
ſtaré żony/ a babi/ co po 'laćinie obſtetricatur: iuż tu  
inaczéy b bŕmi/ a inaczéy tam JanNKarKoch G2.*

## Transcription examples: *uncial* a, ...

iako tu/ ꝑacunek. Ale to chcę pridać: iſz się często w  
Polskim ięzyku trafia / ze po/ s/ idzie/ c/ a ty obiedwie  
566; CzechEp 32, 33; NiemObr 37, 47; ActReg 10; WujNT 556; Ale  
to chcę pridać: iſz się często w Polskim ięzyku trafia/ ze po/ s/ idzie/  
c JanNKarKoch F2v; SarnStat 511, 1072, 1073; SiebRozmyśl K2v,

Transcription examples: *r with ogonek*, ...

Koch. G także: chyba to powiedzieć tręba/ że  
go Polacy nieuzinaią na dwoie iako Łacinnicy: ale  
tilko w iedno: iako tu garniec: iedwab przez/ i/ nie  
przez/ g.

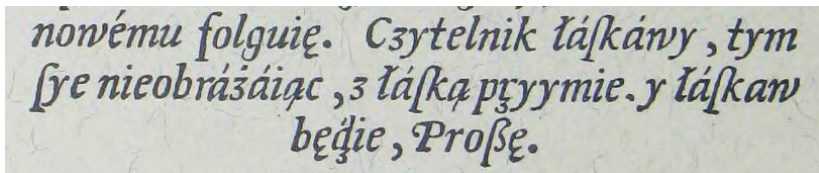
I ANV. Do tego przydać się może Reieſtr, nie Regeſtr, Aniół, Ewanielia, etc. nie Angiół, ani Ewángelia. Bo ácz z Lacińſkiego iſcie, ále w Polſkim

Ewangelie *LatHar* 682; (tekst *Jana Kochanowskiego*) ze go [literary G] Polacy nieuziwaia na dwoie iako Laćinnicy: ale tilko w iedno: iako tu garniec: iedwab pżez/ i/ nie pżez/ g. (–) Do tego przydać sie może Reieſtr, nie Regeſtr, Aniół, Ewanielia, etc. nie Angiół, ani Ewangelia. *JanNKar* E4.

## Transcription examples: *z with stroke*, ...

Koch. C troie: piérwśé z Łacińskim iedno /  
iako nic: drugié z kréską iako/ nić: trzecié z przydaním  
táy litery/ *z*/ iako / czeladź. Ale o tych piérwśych dwu  
piérwśzé z Łacińskim iedno/ iako nic: drugié z kréską iako/ nić:  
trzecié z przydaním táy litery/ *z*/ iako czeladź. JanNKarKoch Ev.

## Transcription examples: *combining ezh*, ...

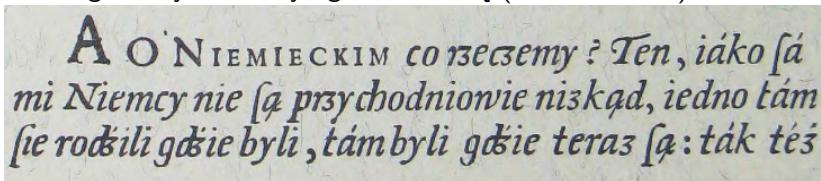


*nōvému folguie. Czytelnik ląskáwy, tym  
sye nieobrázáiac, z ląską przyymie. y ląskaw  
będie, Proße.*

*KochFrag 4; KolakCathOkuń A2v; Czytelnik ląlkáwy [...] z ląlką  
przyymie, y ląskaw będie JanNKar Av, A4v; SarnStat 330; Sieb-*

## Transcription problems — Opaliński 2007, p. 110 (6)

iáko fámi Niemcy nie są prychodniowie nizkąd, iedno tám sie rodźili gďie byli, tám byli gďie teraz są (*JanNKar* C4v).



A O NIEMIECKIM co rzeczymy? Ten, iáko fá  
mi Niemcy nie są prychodniowie nizkąd, iedno tám  
sie rodźili gďie byli, tám byli gďie teraz są: ták téż

gdzie dziś mieszkają *BielKron* 275v, 345v; iáko fámi Niemcy nie są prychodniowie nizkąd, iedno tám sie rodźili gdzie byli *JanNKar* C4v.

## Transcription problems — Opaliński 2007, p. 110 (7)

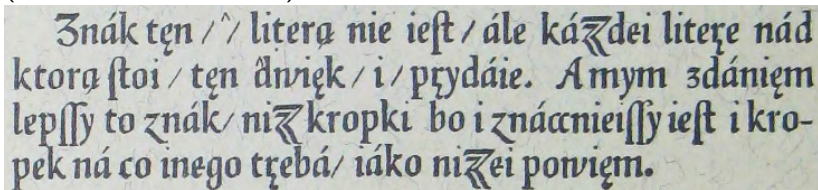
Vżywamy bowiem liter w piśaniu więcej niż potrzeba: kładźiemy opák litery nie ták iáko trzebá: podczás liter nie dokładamy gďzie trzebá (*JanNKar* D2).

*Orthográphią, ále rychlęý Tautográphią. Używamy  
bowiem liter w piśaniu więcej niż potrzebá: kładźie-  
my opák litery nie ták iáko trzebá: podczás liter nie  
dokładamy gďzie trzebá: bierzemy litery w inšym ro-  
náśláduiá. WujNT 654 marg, 500 marg, 860, Yyyyy3; kładźiemy  
opák litery nie ták iáko trzebá: podczás liter nie dokładamy gďzie  
trzebá JanNKar D2; W pokoju kwitnie wiárá, kwitną prąwá,*



## Transcription problems — Opaliński 2007, p. 110 (10)

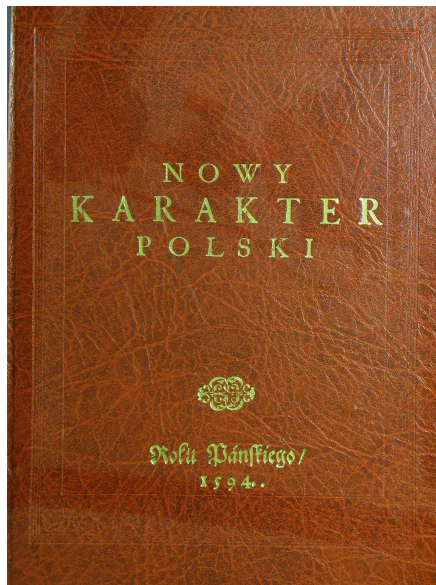
Znák tẽn/ ' / literą nie iest/ ále kázzdei literę nád ktorą stoi/ tẽn  
dwięk/ i [tj. zmiękczenie]/ pry- dáie. A mym zdaniem lepssy to  
znak/ ni~~zz~~ kropki bo i zna~~cc~~niei~~ssy~~ iest i kropek na co ine-go  
tr~~ze~~ba/ iako ni~~zze~~- powiem.  
(*JanNKarGórn G3v D2*).



Znák tẽn / ^ / literą nie iest / ále káẏdei literę nád  
ktorą stoi / tẽn đwięk / i / prydaie. A mym zdaniem  
lepssy to znák / niẏ kropki bo i znaćnieiẏsy iest i kro-  
pek ná co inego trębá / iáko niẏei powiem.

γ. O wymowie spółgłoski [czemu] (1): Znák ten/ ' / literą nie iest/  
ále kázzdei literę nád ktorą stoi/ tẽn dwięk/ i [tj. zmiękczenie]/ pry-  
dáie. *JanNKarGórn G3v*.

# A treatise on Polish orthography (1594)



# The high quality reprint (1982)

Przedruk techniką fotooffsetową  
wykonany w Zakładach Graficznych we Wrocławiu  
z egzemplarza udostępnionego  
przez Bibliotekę Zakładu Narodowego im. Ossolińskich we Wrocławiu  
Wydano w nakładzie 1700 egzemplarzy  
na zamówienie Zjednoczenia Księgarstwa  
jako setny reprint Wydawnictw Artystycznych i Filmowych  
Wydawnictwa Artystyczne i Filmowe  
Warszawa 1982

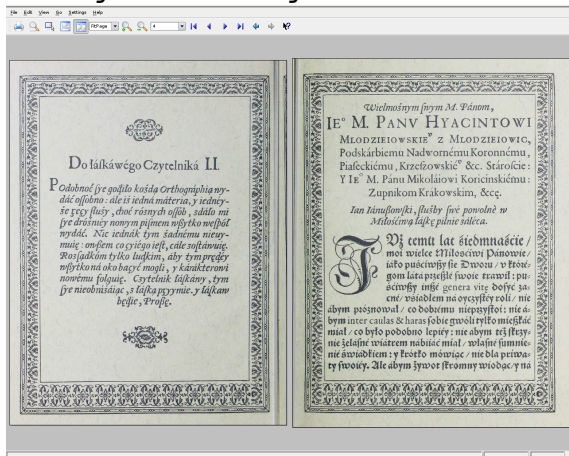
**WAIF**  
*Reprint*

# Scanning in UW Library (2009)



# Preliminary DjVuLibre edition (2010)

<http://fleksem.klf.uw.edu.pl/~jsbien/tmp/NKPoDjVu/iNKPo.djvu>

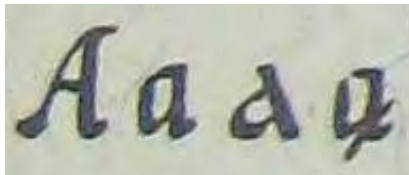


# Kochanowski's alphabet

OBIĘCADIŁO WEDŁE ORTHOGRA-  
phiiéy Páná Kochánowskiégo ták idzie.

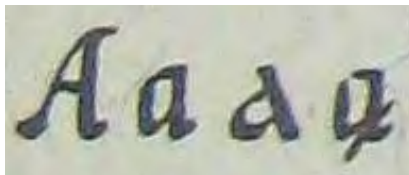
Aa aꝛ bꝛ cꝛ dꝛ eꝛ fꝛ gꝛ hꝛ iꝛ kꝛ lꝛ mꝛ nꝛ o  
ò pꝛ qꝛ rꝛ sꝛ tꝛ uꝛ vꝛ xꝛ yꝛ zꝛ.

# Unicode and MUFI: A letters



- łacińskie (Latin) — contemporary equivalent A,
- polskie (Polish) — contemporarily not existing, referenced as Å
- ciężkie (heavy) — contemporary equivalent A

# Unicode and MUFI: A glyphs



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
À	&aains;	F200	PUA-var	LATIN SMALL LETTER A INSULAR FORM
À	&aunc;	F214	PUA-var	LATIN SMALL LETTER A UNCIAL FORM
À			PUA	LATIN CAPITAL LETTER A INSULAR FORM WITH STROKE

## X<sub>3</sub>TeX definition for Junicode

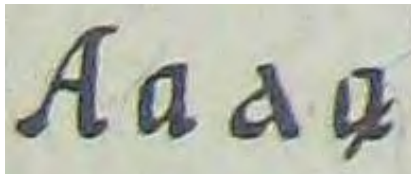
```

LATIN CAPITAL LETTER A INSULAR FORM WITH STROKE
=
LATIN SMALL LETTER A INSULAR FORM
\kern-1.9pt\raise.5pt
RIGHT LOW PARAPHRASE BRACKET

```



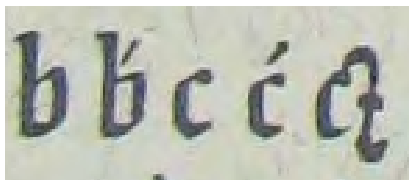
# Unicode and MUFI: A glyphs coding



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
ɑ	&ains!;	F200!	PUA-var!	LATIN SMALL LETTER A
Α	&ains!;	F200!	PUA-var!	LATIN CAPITAL LETTER A
λ	&aunc!;	F214!	PUA-var!	LATIN SMALL LETTER A WITH RING BELOW
Λ	&aunc!;	F214!	PUA-var!	LATIN CAPITAL LETTER A WITH RING BELOW
λ	&aunc!;	F214!	PUA-var!	LATIN SMALL LETTER A WITH OGONEK
Λ	&aunc!;	F214!	PUA-var!	LATIN CAPITAL LETTER A WITH OGONEK

Specialised font needed.

# Unicode and MUFI: B, C



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
ḃ	<code>&amp;backacute;</code>	E444	PUA-16	LATIN SMALL LETTER B WITH ACUTE
ć	<code>&amp;scacute;</code>	0107	LatExt-A	LATIN CAPITAL LETTER C WITH ACUTE
cz			PUA	LATIN SMALL LIGATURE CZ

## X<sub>3</sub>TeX definition

LATIN SMALL LIGATURE CZ

=

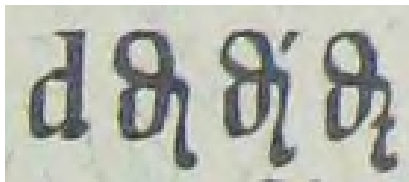
LATIN CAPITAL LETTER C

LATIN LETTER REVERSED ESH LOOP

`\kern.5pt`

COMBINING SHORT STROKE OVERLAY

# Unicode and MUFI: D



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
█			PUA	LATIN SMALL LIGATURE DZ
█			PUA	LATIN SMALL LIGATURE DZ WITH ACUTE
█			PUA	LATIN SMALL LIGATURE DZ WITH STROKE

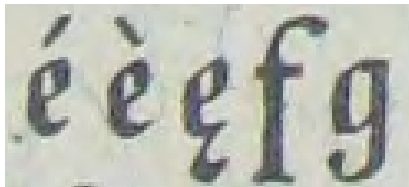
## X<sub>Y</sub>TeX ugly approximation

```

LATIN SMALL LIGATURE DZ: 8u
=
LATIN CAPITAL LETTER OU
\raise.3ex
COMBINING LONG STROKE OVERLAY
\kern.2em
\raise.5ex
COMBINING RETROFLEX HOOK BELOW

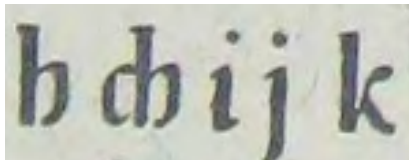
```

## Unicode and MUFI: E, F, G



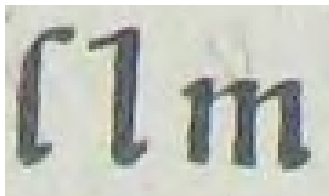
No problems

# Unicode and MUFI: H, I, J, K



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
ch			PUA	LATIN SMALL LIGATURE CH

# Unicode and MUFI: L, M



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
l			PUA	LATIN SMALL LETTER L VARIANT FORM
l			PUA	LATIN SMALL LETTER L BARBARUM

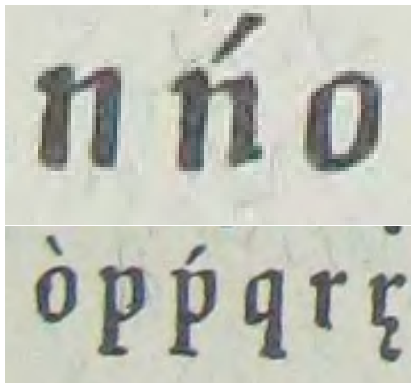
## X<sub>3</sub>TeX rough approximation

LATIN SMALL LETTER L VARIANT FORM:  $\ell$  = LATIN SMALL LETTER T WITH HOOK

## X<sub>3</sub>TeX definition

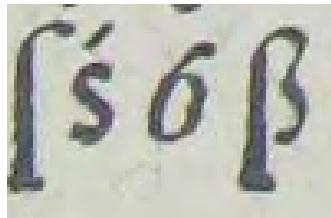
LATIN SMALL LETTER L BARBARUM = LATIN CAPITAL LETTER IOTA


# Unicode and MUFI: N, O, P, R



No problems

# Unicode and MUFI: S



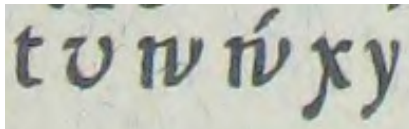
Glyph	Entity	Code Point	Code chart	Unicode descriptive name
( ſ )	&slong;	017F	LatExtA	LATIN SMALL LETTER LONG S
				LATIN SMALL LETTER S CLOSED VARIANT FORM
( ß )	&szlig;	00DF	Lat1Suppl	LATIN SMALL LETTER SHARP S VARIANT FORM


X<sub>3</sub>TeX rough approximation

LATIN SMALL LETTER L VARIANT FORM: **s** = LATIN SMALL LETTER S CLOSED FORM (MUFI F128)



# Unicode and MUFI: T, U, W, X, Y



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
	&xldes;	F232	PUA	LATIN SMALL LETTER U VARIANT FORM
			PUA	LATIN SMALL LETTER W VARIANT FORM
			PUA-var	LATIN SMALL LETTER X WITH LEFT DESCENDER

## X<sub>3</sub>TeX approximation

LATIN SMALL LETTER U VARIANT FORM: Ů

=

LATIN SMALL LETTER UPSILON

# Unicode and MUFI: Z



Glyph	Entity	Code Point	Code chart	Unicode descriptive name
ẓ			PUA	LATIN SMALL LETTER Z VARIANT FORM
ẓ́			PUA	LATIN SMALL LETTER EZH VARIANT FORM WITH ACUTE
ẓ̌			PUA	LATIN SMALL LETTER Z VARIANT FORM WITH STROKE

## X<sub>3</sub>TEX rough approximation

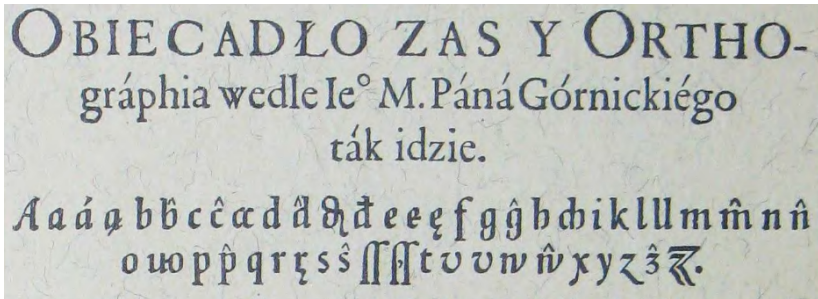
LATIN SMALL LETTER Z VARIANT FORM: ẓ =

LATIN SMALL LETTER Z, COMBINING RETROFLEX HOOK BELOW

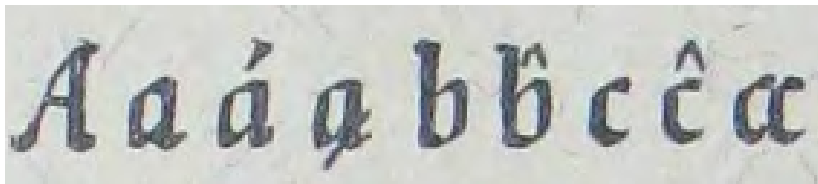
LATIN SMALL LETTER EZH VARIANT FORM WITH ACUTE: ẓ́ =

LATIN CAPITAL LETTER EZH, COMBINING ACUTE ACCENT

# Górnicki's alphabet



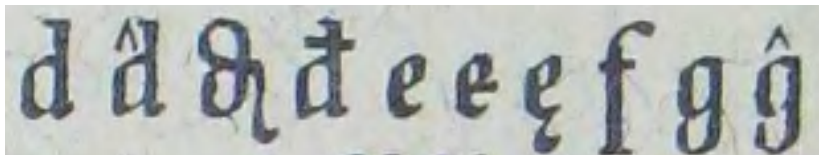
# Unicode and MUFI: A–C



No new problems except

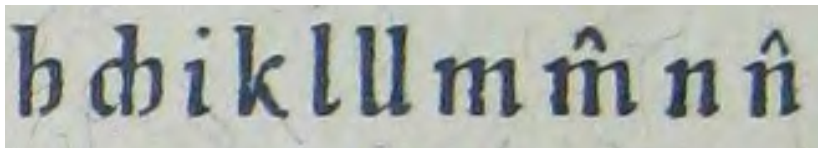
Glyph	Entity	Code Point	Code chart	Unicode descriptive name
cc			PUA	LATIN SMALL LIGATURE CC

## Unicode and MUFI: D–G



No new principal problems

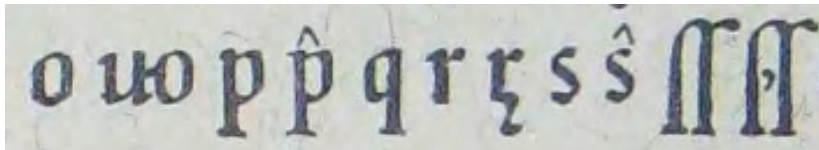
# Unicode and MUFI: H–N



No new problems except

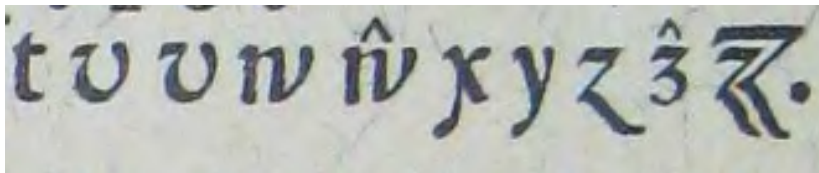
Glyph	Entity	Code Point	Code chart	Unicode descriptive name
ll			PUA	LATIN SMALL LIGATURE LL

## Unicode and MUFI: 0–S




No new principal probles except ligatures

# Unicode and MUFI: T–Z

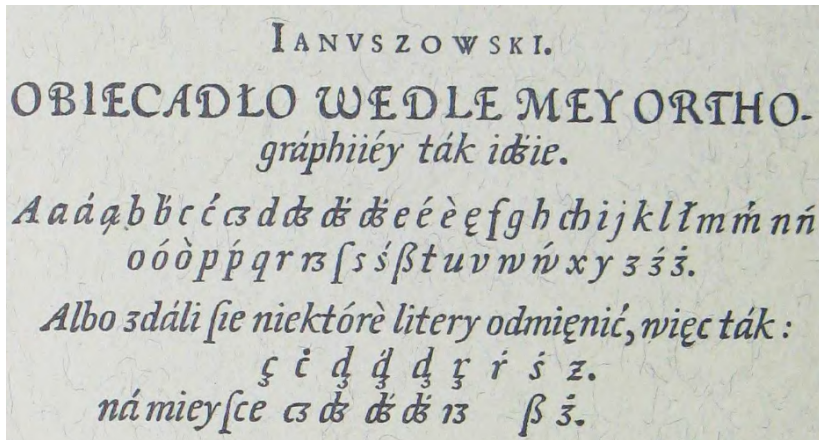


No new principal problems except

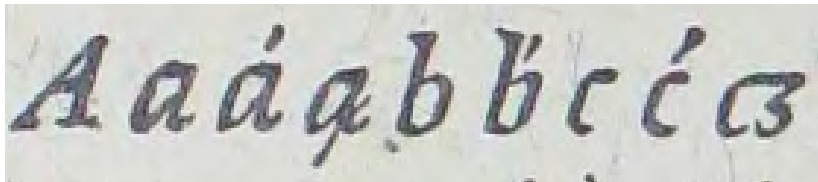
Glyph	Entity	Code Point	Code chart	Unicode descriptive name
			PUA	LATIN SMALL LETTER DOUBLE Z



# Januszowski's alphabet

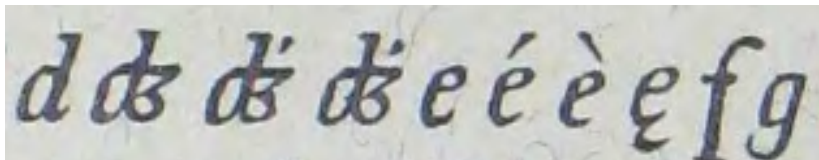


## Unicode and MUFI: A–C



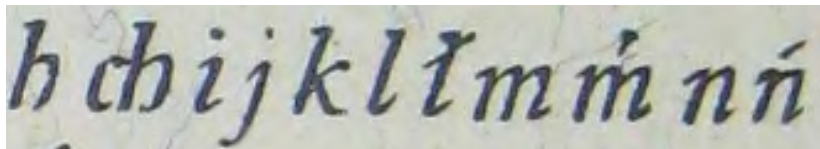
No new problems

# Unicode and MUFI: D–G



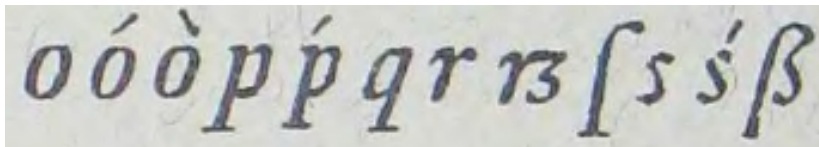
Glyph	Entity	Code Point	Code chart	Unicode descriptive name
█			PUA	LATIN SMALL LIGATURE D EZH
█			PUA	LATIN SMALL LIGATURE D EZH WITH ACUTE
█			PUA	LATIN SMALL LIGATURE D EZH WITH DOT

## Unicode and MUFI: H–N



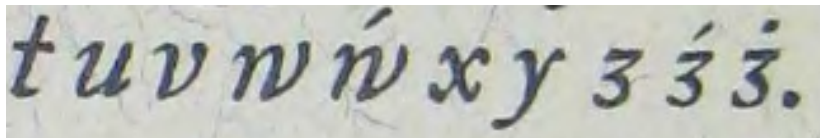
No new problems

## Unicode and MUFI: 0–S



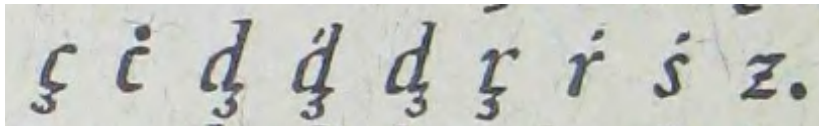
No new problems

## Unicode and MUFI: T–Z



No new problems

## Unicode and MUFI: alternative characters



Suggested by André Szabolcs Szelp on Unicode list:

The combining character: cedille



The glyph: small EZH.

# Unicode and MUFI

Stanisław Orzechowski:  
No new characters



# Virgula suspensiva

Glyph	Entity	Code Point	Code chart	Unicode descriptive name
	<code>&amp;virgsusp;;</code>	F1F4	PUA-8	VIRGULA SUSPENSIVA
	<code>&amp;virgmin;;</code>	F1F7	PUA-8	SHORT VIRGULA

# Hyphens

Glyph	Entity	Code Point	Code chart	Unicode descriptive name
≈		2E17	Supplemental Punctuation	DOUBLE OBLIQUE HYPHEN

<http://www.mufi.info/pipeline/for-v3.html>

### 3. From Alexei Lavrentev, Lyon, France:

The first character is an oblique double hyphen used in the 15th century manuscripts and incunabulae. Unicode actually has such a character (2E17) but it is not listed in MUFI charts and, thus, not included in MUFI compliant fonts. The medieval character might probably qualify for its own codepoint, as its shape and function are considerably different from that of the Unicode character.

## Other missing letters: *alpha with stroke*, ...

*α. Bez pomocy, współudziału, własnymi siłami: samodzielnie; z natury swej (63): y[u]łł nyepres myα alye pres lalkα panłkα mam nadzyeyα yz moga bic łbawyon. BierRaj 23v; RejPs 116 (4); HistAl*

# Other problematic letters (*Principles ...*)

ij ŷ Ÿ ħ ħ ħ

ø ø ø ó ø

z

and more ...

# gBank

Gaiji Bank of non-standard characters and glyphs

http:

[//beta.manuscriptorium.com/index.php?q=node/3](http://beta.manuscriptorium.com/index.php?q=node/3)

<http://beta.manuscriptorium.com/apps/gbank/>

<http://nl.ijs.si/et/teach/graz09/standards/Oxford/talk-08-gaiji.pdf>

# UniBook

<http://unicode.org/unibook/>

*Unibook has been used to produce the printed and online code charts for The Unicode Standard since Version 3.0, as well as code charts for all editions of ISO/IEC 10646 since 2000. (For that work, a non-public collection of fonts is used, which may differ in some details from the fonts available on your system).*

# Font creation

<http://fontforge.sourceforge.net/>  
<http://autotrace.sourceforge.net/>

# Font utilities

<http://billposer.org/Software/>

[UnicodeDataBrowser.html](http://billposer.org/Software/UnicodeDataBrowser.html)

<http://live.gnome.org/Gucharmap>

<http://packages.debian.org/lenny/gwaterfall>

<http://packages.debian.org/lenny/fntsample>